

## INDEX OF AUTHORS

Achwal, S. K., and Stepanek, J. B. — Absorption with First Order Chemical Reactions into Turbulently Flowing Liquids .....	517	Brunson, R. J., and Wellek, R. M. — Experimental Studies of Single Droplet Liquid Extraction with Chemical Reaction .....	150
Adelman, M. and Liew, K. S. — Laminar Natural Heat Transfer from an Isothermal Sphere to Non-Newtonian Fluids .....	494	Cakaloz, Temel, Kisakurek, Bilgin, and Peck, Ralph E. — Generalized Drying Curves for Porous Solids .....	53
Adelman, Maurice, and Yamanis, John — Transesterification of DMT with Ethylene Glycol Catalyzed by Amerlyst 15 .....	536	Carberry, J. J., Kulkarni, A. A., and Sylvester, N. D. — Slurry and Trickle-Bed Reactor Effectiveness ...	313
Akiyama, Tetsuo, and Yamaguchi, Kazuo — On the Flow Past a Spherical Drop or Bubble at Low Reynolds Number .....	695	Carberry, James J., and Smith, Gordon Thomas — On the Use of Partially Impregnated Catalysts for Yield Enhancement in Non-Isothermal Non-Adiabatic Fixed Bed Reactors .....	347
Alessi, P., and Kikic, I. — Hydrocarbon-propionitrile Systems .....	192	Carey, John H., and Oliver, Barry G. — A Scale-Up Investigation of Ultraviolet Disinfection as an Alternative to Chlorination for Sewage Effluents .....	711
Anaka, Harvey, Neale, G., and Hampel, David — Transport Phenomena in Non-Homogeneous Porous Media: Fluid Flow .....	691	Carty, R. H., Conger, W. L., Funk, J. E., and Solomon, M. A. — New Thermochemical Cycles for Hydrogen Production .....	164
Anderson, Susan J., and Woods, Donald R. — Evaluation of Capital Cost Data: Drives .....	357	Chan, Alan L., and Talbot, Frank D. — Optimal Two Point Control of a Binary Distillation Column .....	91
Anvari, M., Johnson, A. I., Lozada, A., Stephanopoulos, G., and Weng, P. — Steady State and Dynamic Studies of a Multi Product Chemical Plant .....	340	Chavan, V. V. — See Arumugam, M. ....	628
Aruanno, Jorge, and Wanke, Sieghard — Effect of High Temperature Treatment on Properties of Fe-Mo Oxide Catalysts .....	301	Chen, B. H. — Gas Holdup and Liquid Flow Velocity in a Bubble Column Containing Screen Cylinders .....	225
Arumugam, M., Chavan, V. V., and Ford, D. E. — Influence of Fluid Rheology on Circulation, Mixing and Blending .....	628	Chen, H. R. — See Blanchard, L. P. ....	228
Azarniouch, M. K., Bobkiewicz, A. J., Cooke, N. E., and Farkas, E. J. — Removal of Micron-Size Particles from Gases by Turbulent Deposition and Diffusiophoresis .....	278	Chen, H. R. — See Blanchard, L. P. ....	476
Baker, C. G. J., Behie, L. A., and Bergougnou, M. A. — Heat Transfer from a Grid Jet in a Large Fluidized Bed .....	25	Chen, J. L.-P., and Keairns, D. L. — Particle Segregation in a Fluidized Bed .....	395
Baker, C. G. J., Bergougnou, M. A., and Kim, S. D. — Phase Holdup Characteristics of Three Phase Fluidized Beds .....	134	Cheng, K. C., and Ou, Jenn-Wuu — Viscous Dissipation Effects on Turbulent Heat Transfer in Pipes with Uniform Wall Heat Flux .....	403
Balakrishnan, Arcot R., and Pei, David C. T. — Fluid-Particle Heat Transfer in Gas Fluidized Beds .....	231	Chiang, David, Cholette, A., and Van Bang, Vo. — Optimum Attenuation of Inlet Fluctuations in a Flow System for Imperfectly Mixed Tanks in Series .....	521
Banerjee, S., Critoph, E., and Hart, R. G. — Thorium as a Nuclear Fuel for CANDU Reactors .....	291	Cholette, A. — See Chiang, David .....	521
Barnea, E., and Mizrahi, J. — A Generalised Approach to the Fluid Dynamics of Particulate System. — Part 2: Sedimentation and Fluidisation of Clouds of Spherical Liquid Drops .....	461	Chornet, E., Khanh, P. V., and Son, P. N. — Activation de la tourbe de sphaigne par le dioxyde de carbone et agglomération du charbon actif produit .....	286
Basmadjian, D. — On the Possibility of Omitting the Cooling Step in Thermal Gas Adsorption Cycles ...	234	Clech, Paul, Jose, Jacques, and Philippe, Robert — Propriétés physico-chimiques et thermodynamiques du système binaire hexaméthylphosphoramide + eau .....	88
Behie, L. A. — See Baker, C. G. J. ....	25	Cohen, A. D., Gaspar, N. J., and Pasternak, I. S., and Vadekar, M. — SO <sub>2</sub> Promoted Oxidative Dehydrogenation of Ethylbenzene .....	74
Bergougnou, M. A., Papadatos, K., and Svrcek, W. Y. — Holdup Dynamics of a Single Stage Gas-Solid Fluidized Bed Adsorber .....	686	Cohen, A. D., Gaspar, N. J., Pasternak, I. S., and Vadekar, M. — SO <sub>2</sub> /O <sub>2</sub> Dehydrogenation of Ethylbenzene .....	79
Bergougnou, M. A. — See Baker, C. G. J. ....	25	Cole, R., Kasturirangan, S., and Schultz, R. R. — Experimental Studies of Incipient Vapor Nucleation .....	408
Bergougnou, M. A. — See Baker, C. G. J. ....	134	Conger, W. L. — See Carty, R. H. ....	164
Bergougnou, M. A., and Nguyen, X. T. — Approximate Correlation for Fluidized Bed Density Within the Slug Flow Regime .....	102	Cooke, N. E. — See Azarniouch, M. K. ....	278
Blanchard, L. P., and Chen, H. R. — Behavior of Macromolecules in Dilute Solutions. I — Longitudinal Dispersion .....	228	Correa, H. A., and Vera, J. H. — On the Thermodynamics of Concentrated Strong Electrolytes Aqueous Solutions. The System NaNO <sub>3</sub> -NaCl-H <sub>2</sub> O .....	204
Blanchard, L. P., and Chen, H. R. — Behavior of Macromolecules in Dilute Solutions: II — On the Axial Dispersion Coefficient .....	476	Cosgrove, Ernest G., and Oliver, Barry G. — The Disinfection of Sewage Treatment Plant Effluents Using Ultraviolet Light .....	170
Bobkiewicz, A. J. — See Azarniouch, M. K. ....	278	Coudere, J. P., Laguerite, C., and Lozar, J. — Diffusivité de l'acide benzoïque dans l'eau: Influence de la température .....	200
Brennen, Christopher — A Concentrated Suspension Model for The Couette Rheology of Blood .....	126	Coulman, George A., and Novak, Lawrence T. — Mathematical Models for the Drying of Rigid Porous Materials .....	60
Brookes, C., Gall, C. E., and Hudgins, R. R. — A Model for the Formation of Calcium Carbide in Solid Pellets .....	527	Coulson, J. M., and Mahalingam, R. — Non Isothermal Pressure-Drop In Non-Newtonian Laminar Flow .....	589
		Cresswell, D. L., and Quon, D. — A Technique for Analysing Integral Rate Data in Non-Ideal Flow Reactors to Estimate Unknown Parameters .....	334
		Critoph, E. — See Banerjee, S. ....	291

## INDEX OF AUTHORS

Achwal, S. K., and Stepanek, J. B. — Absorption with First Order Chemical Reactions into Turbulently Flowing Liquids .....	517	Brunson, R. J., and Wellek, R. M. — Experimental Studies of Single Droplet Liquid Extraction with Chemical Reaction .....	150
Adelman, M. and Liew, K. S. — Laminar Natural Heat Transfer from an Isothermal Sphere to Non-Newtonian Fluids .....	494	Cakaloz, Temel, Kisakurek, Bilgin, and Peck, Ralph E. — Generalized Drying Curves for Porous Solids .....	53
Adelman, Maurice, and Yamanis, John — Transesterification of DMT with Ethylene Glycol Catalyzed by Amerlyst 15 .....	536	Carberry, J. J., Kulkarni, A. A., and Sylvester, N. D. — Slurry and Trickle-Bed Reactor Effectiveness ...	313
Akiyama, Tetsuo, and Yamaguchi, Kazuo — On the Flow Past a Spherical Drop or Bubble at Low Reynolds Number .....	695	Carberry, James J., and Smith, Gordon Thomas — On the Use of Partially Impregnated Catalysts for Yield Enhancement in Non-Isothermal Non-Adiabatic Fixed Bed Reactors .....	347
Alessi, P., and Kikic, I. — Hydrocarbon-propionitrile Systems .....	192	Carey, John H., and Oliver, Barry G. — A Scale-Up Investigation of Ultraviolet Disinfection as an Alternative to Chlorination for Sewage Effluents .....	711
Anaka, Harvey, Neale, G., and Hampel, David — Transport Phenomena in Non-Homogeneous Porous Media: Fluid Flow .....	691	Carty, R. H., Conger, W. L., Funk, J. E., and Solomon, M. A. — New Thermochemical Cycles for Hydrogen Production .....	164
Anderson, Susan J., and Woods, Donald R. — Evaluation of Capital Cost Data: Drives .....	357	Chan, Alan L., and Talbot, Frank D. — Optimal Two Point Control of a Binary Distillation Column .....	91
Anvari, M., Johnson, A. I., Lozada, A., Stephanopoulos, G., and Weng, P. — Steady State and Dynamic Studies of a Multi Product Chemical Plant .....	340	Chavan, V. V. — See Arumugam, M. ....	628
Aruanno, Jorge, and Wanke, Sieghard — Effect of High Temperature Treatment on Properties of Fe-Mo Oxide Catalysts .....	301	Chen, B. H. — Gas Holdup and Liquid Flow Velocity in a Bubble Column Containing Screen Cylinders .....	225
Arumugam, M., Chavan, V. V., and Ford, D. E. — Influence of Fluid Rheology on Circulation, Mixing and Blending .....	628	Chen, H. R. — See Blanchard, L. P. ....	228
Azarniouch, M. K., Bobkiewicz, A. J., Cooke, N. E., and Farkas, E. J. — Removal of Micron-Size Particles from Gases by Turbulent Deposition and Diffusiophoresis .....	278	Chen, H. R. — See Blanchard, L. P. ....	476
Baker, C. G. J., Behie, L. A., and Bergougnou, M. A. — Heat Transfer from a Grid Jet in a Large Fluidized Bed .....	25	Chen, J. L.-P., and Keairns, D. L. — Particle Segregation in a Fluidized Bed .....	395
Baker, C. G. J., Bergougnou, M. A., and Kim, S. D. — Phase Holdup Characteristics of Three Phase Fluidized Beds .....	134	Cheng, K. C., and Ou, Jenn-Wuu — Viscous Dissipation Effects on Turbulent Heat Transfer in Pipes with Uniform Wall Heat Flux .....	403
Balakrishnan, Arcot R., and Pei, David C. T. — Fluid-Particle Heat Transfer in Gas Fluidized Beds .....	231	Chiang, David, Cholette, A., and Van Bang, Vo. — Optimum Attenuation of Inlet Fluctuations in a Flow System for Imperfectly Mixed Tanks in Series .....	521
Banerjee, S., Critoph, E., and Hart, R. G. — Thorium as a Nuclear Fuel for CANDU Reactors .....	291	Cholette, A. — See Chiang, David .....	521
Barnea, E., and Mizrahi, J. — A Generalised Approach to the Fluid Dynamics of Particulate System. — Part 2: Sedimentation and Fluidisation of Clouds of Spherical Liquid Drops .....	461	Chornet, E., Khanh, P. V., and Son, P. N. — Activation de la tourbe de sphaigne par le dioxyde de carbone et agglomération du charbon actif produit .....	286
Basmadjian, D. — On the Possibility of Omitting the Cooling Step in Thermal Gas Adsorption Cycles ...	234	Clech, Paul, Jose, Jacques, and Philippe, Robert — Propriétés physico-chimiques et thermodynamiques du système binaire hexaméthylphosphoramide + eau .....	88
Behie, L. A. — See Baker, C. G. J. ....	25	Cohen, A. D., Gaspar, N. J., and Pasternak, I. S., and Vadekar, M. — SO <sub>2</sub> Promoted Oxidative Dehydrogenation of Ethylbenzene .....	74
Bergougnou, M. A., Papadatos, K., and Svrcek, W. Y. — Holdup Dynamics of a Single Stage Gas-Solid Fluidized Bed Adsorber .....	686	Cohen, A. D., Gaspar, N. J., Pasternak, I. S., and Vadekar, M. — SO <sub>2</sub> /O <sub>2</sub> Dehydrogenation of Ethylbenzene .....	79
Bergougnou, M. A. — See Baker, C. G. J. ....	25	Cole, R., Kasturirangan, S., and Schultz, R. R. — Experimental Studies of Incipient Vapor Nucleation .....	408
Bergougnou, M. A. — See Baker, C. G. J. ....	134	Conger, W. L. — See Carty, R. H. ....	164
Bergougnou, M. A., and Nguyen, X. T. — Approximate Correlation for Fluidized Bed Density Within the Slug Flow Regime .....	102	Cooke, N. E. — See Azarniouch, M. K. ....	278
Blanchard, L. P., and Chen, H. R. — Behavior of Macromolecules in Dilute Solutions. I — Longitudinal Dispersion .....	228	Correa, H. A., and Vera, J. H. — On the Thermodynamics of Concentrated Strong Electrolytes Aqueous Solutions. The System NaNO <sub>3</sub> -NaCl-H <sub>2</sub> O .....	204
Blanchard, L. P., and Chen, H. R. — Behavior of Macromolecules in Dilute Solutions: II — On the Axial Dispersion Coefficient .....	476	Cosgrove, Ernest G., and Oliver, Barry G. — The Disinfection of Sewage Treatment Plant Effluents Using Ultraviolet Light .....	170
Bobkiewicz, A. J. — See Azarniouch, M. K. ....	278	Coudere, J. P., Laguerite, C., and Lozar, J. — Diffusivité de l'acide benzoïque dans l'eau: Influence de la température .....	200
Brennen, Christopher — A Concentrated Suspension Model for The Couette Rheology of Blood .....	126	Coulman, George A., and Novak, Lawrence T. — Mathematical Models for the Drying of Rigid Porous Materials .....	60
Brookes, C., Gall, C. E., and Hudgins, R. R. — A Model for the Formation of Calcium Carbide in Solid Pellets .....	527	Coulson, J. M., and Mahalingam, R. — Non Isothermal Pressure-Drop In Non-Newtonian Laminar Flow .....	589
		Cresswell, D. L., and Quon, D. — A Technique for Analysing Integral Rate Data in Non-Ideal Flow Reactors to Estimate Unknown Parameters .....	334
		Critoph, E. — See Banerjee, S. ....	291

- Crosby, E. J., and Mann, Uzi — Cycle Time Distribution Measurements in Spouted Beds ..... 579
- David, R., and Matras, D. — Règles de construction et d'extrapolation des réacteurs auto-agités par jets gazeux ..... 297
- Dim, A., Landau, J., and Shemilt, L. W. — Dynamic Behavior of Reciprocating Plate Columns ..... 9
- Dingrani, J. G., and Thodos, George — Modified van der Waals Equation for the Dense Gaseous and Liquid Regions from PVT Data for Methane ..... 317
- Dranchuk, P. M., and Singhal, A. K. — Wettability Control of Glass Beads ..... 3
- D'Souza, M. V., and Karim, G. A. — An Analytical Examination of the Ignition of a Homogeneous Mixture of Fuel and Air Undergoing Periodic Changes in Density ..... 106
- Duffy, John P., and Kadlec, Robert H. — The Behaviour of the Dispersed Phase in Liquid-Liquid Co-current Flow Through a Packed Bed ..... 621
- Ellis, H. S., Kruyer, Jan and Roehl, A. A. — The Hydrodynamics of Spherical Capsules ..... 119
- Elshayal, I. M., and Lu, B. C.-Y. — Measurement of Total Pressures for Ethylene Propane Mixtures ..... 83
- Ettel, V. A., and Gendron, A. S. — Hydrodynamic Studies in Natural and Forced Convection Electrowinning Cells ..... 36
- Fahidy, T. Z., and Nadebaum, P. R. — The Rate of Mass Transfer at a Rotating Cylindrical Electrode With Wiper Blades ..... 259
- Farkas, E. J. — See Azarniouch, M. K. .... 278
- Farkas, Edward J., and Himsley, Alexander — Some Fundamental Aspects of the Behaviour of Ion Exchange Equipment ..... 575
- Fleury, D., and Hayduk, W. — Solubility of Propane in Isomers of Hexane and Other Non-Polar Solvents ..... 195
- Flynn, Peter C., and Wanke, Sieghard E. — Effect of Pretreatment and Adsorption Conditions on Gas Adsorption by Supported Metal Catalysts ... 636
- Ford, D. E. — See Arumugam, M. .... 628
- Fox, George E., Rice, Philip, A., and Turian, Raffi M. — The Dispersed Flow Model for a Biological Reactor as Applied to the Activated Sludge Process ..... 431
- Funk, J. E. — See Carty, R. H. .... 164
- Gall, C. E. — See Brookes, C. .... 527
- Garceau, J. J., and Lo, S. N. — Rapid Estimation of Percent Solids in Spent Liquors by Refractometry ..... 104
- Garceau, J. J., and Lo, S. N. — A Spectrophotometric Method for Quantitative Analysis of Sugar Mixtures Containing Known Sugars ..... 582
- Garlid, Kermit L., and Strand, Michael J. — The Application of Spectral Analysis in Monitoring Extraction Column Behavior ..... 677
- Garmendia, L. A., and Smith, I. K. — The Effects of an Electrostatic Field and Air Stream on Water Jet Break-Up Length ..... 606
- Gaspar, N. J. — See Cohen, A. D. .... 74
- Gaspar, N. J. — See Cohen, A. D. .... 79
- Gauvin, W. H., and Katta, S. — Behaviour of a Spray in the Near Vicinity of a Pneumatic Atomizer ..... 556
- Gendron, A. S. — See Ettel, V. A. .... 36
- Ghosh, S. K., and Krishna, M. G., and Rawat, B. S. — Sorption Characteristics of Binary Hydrocarbon Mixtures in Low Density Polyethylene ..... 48
- Giralt, Francesc, and Trass, Olev — Mass Transfer from Crystalline Surfaces in a Turbulent Impinging Jet. Part 1. Transfer by Erosion ..... 505
- Golding, J. A., and Mah, C. C. — Gas Absorption in Vertical Slug Flow ..... 414
- Gollahalli, Subramanyam, R. — Flame Oscillations in the Wake of a Burning Liquid Sphere ..... 459
- Goring, D. A. I., and Stradal, M. — Corona-Induced Autohesion of Polyethylene: Dependence of Bonding on Frequency and Power Consumption in Various Gases ..... 427
- Gorla, Rama Subra Reddy — Non-Newtonian Non-similar Boundary Layers ..... 563
- Gregory, G. A. — Comparison of Methods for the Prediction of Liquid Holdup for Upward Gas-Liquid Flow in Inclined Pipes ..... 384
- Griskey, Richard G., and Williams, Richard E. — Mass Transfer from Cylinders at Various Orientations to Flowing Gas Streams ..... 500
- Hampel, David — See Anaka, Harvey ..... 691
- Harris, T. R., and Parimi, K. — The Identification of Residence Time Models by Reacting Tracer Experiments ..... 175
- Hart, R. G. — See Banerjee, S. .... 291
- Hayduk, W. — See Fleury, D. .... 195
- Himsley, Alexander. — See Farkas, Edward, J. .... 575
- Hlavacek, B., and Seyer, F. A. — Energy Effect in Elongational Flow of Dilute Polymer Solution ... 99
- Holdner, D. N., and Postlethwaite, John — Wall Mass Transfer in Horizontal Slurry Pipelines ... 31
- Homola, A. M., and Robertson, A. A. — A Filtration Method for Measuring Particle Interactions in Latexes ..... 389
- Hong, Huynh Man, and MacGregor, John F. — Identification and Direct Digital Stochastic Control of a Continuous Stirred Tank Process ..... 211
- Hsiung, Thomas H., and Thodos, George — Vapor Liquid Equilibrium Constants Through a Non-Equation of State Approach: Methane-Free Aliphatic Binary Systems ..... 321
- Hudgins, R. R. — See Brookes, C. .... 527
- Hughes, R., Ramachandran, P. A., and Sampath, B. S. — A Comparison of Transient Reactor Models for Non-Catalytic Gas-Solid Processing ... 184
- Hudgins, R. R., Silveston, P. L., and Williams, P. E. L. — Oxidation of Butyric Acid Solutions ... 354
- Huh, C., Inoue, M., and Mason, S. G. — Uni-Directional Spreading of One Liquid on the Surface of Another ..... 367
- Hummel, R. L., Kaczinsky, Johannes, and Smith, J. W. — Laminar Flow in the Central Plane of a Curved Circular Pipe ..... 221
- Inoue, M. See Huh, C. .... 367
- Jacques, Derek — An Equation for Salt Effect in Liquid-Vapor Equilibrium at Constant Liquid Composition ..... 713
- Johnson, A. I. — See Anvari, M. .... 340
- Jose, Jacques — See Clechet, Paul ..... 88
- Kaczinsky, Johannes — See Hummel, R. L. .... 221
- Kadlec, Robert H. — See Duffy, John P. .... 621
- Karim, G. A. — See D'Souza, M. V. .... 106
- Kasturirangan, S. — See Cole, R. .... 408
- Katta, S. — See Gauvin, W. H. .... 556
- Keairns, D. L. — See Chen, J. L.-P. .... 395
- Khanh, P. V. — See Chornet, E. .... 286
- Khullar, S. D., and Saraf, D. N. — Some Studies on the Viscosity of Settling Suspensions ..... 449
- Kikic, I. — See Alessi, P. .... 192
- Kim, J. D., and Spink, D. R. — Vapor Pressure of Hafnium Tetrachloride ..... 109
- Kim, S. D. — See Baker, C. G. J. .... 134
- King, D. H., and Smith, J. W. — Electrochemical Wall Mass Transfer in Liquid Particulate Systems ..... 41
- Kisakurek, Bilgin — See Cakaloz, Temel ..... 53
- Kmiec, Andrzej — Simultaneous Heat and Mass Transfer in Spouted Beds ..... 18
- Krishna, M. G. — See Ghosh, S. K. .... 48
- Kruyer, Jan — See Ellis, H. S. .... 119
- Kruyer, Jan, and Snyder, William T. — Relationship Between Capsule Pulling Force and Pressure Gradient in a Pipe ..... 378
- Kubota, Katsuyuki — Non-foaming Adsorptive Bubble Separation of DBSNa and Foam Separation of Cadmium ..... 706
- Kulic, E., Rhodes, E., and Sullivan, G. — Heat Transfer Rate Predictions in Condensation on Droplets from Air-Steam Mixtures ..... 252
- Kulkarni, A. A. — See Carberry, J. J. .... 313
- Laguerite, C. — See Couderc, J. P. .... 200



Lamb, A., and Tollefson, E. L. — Catalytic Reduction of Nitric Oxide in the Presence of Oxygen in Low Concentration High Velocity Gas Streams ....	68	Oloman, Colin, and Watkinson, A. Paul — The Electroreduction of Oxygen to Hydrogen Peroxide on Fluidized Cathodes .....	268
Landau, J. — See Dim, A. ....	9	Osuda, S., Uchida, S., and Shindo, M. — On the Dehydrogenation Reaction of n-Butane with the Deactivation of Alumina-chromia Catalyst .....	666
Liew, K. S. — See Adelman, Maurice .....	494	Ou, Jenn-Wuu — See Cheng, K. C. ....	403
Lenzi, Fabio, and Teng, Tjoon-Tow — Density Prediction of Multicomponent Aqueous Solutions from Binary Data .....	673	Pachovsky, Roman A., and Wojciechowski, Bohdan, W. — Effects of Charge Stock Composition on the Kinetic Parameters in Catalytic Cracking .....	308
Lindfors, Lars-Eric — A Study of the Combined Effects of Kinetic Parameters and Flow Models on Conversions for Second Order Reactions .....	647	Pachovsky, Roman A., and Wojciechowski, Bohdan W. — Effects of Charge Stock Composition on Selectivity in the Cracking of Neutral Distillates .....	659
Lo, S. N. — See Garceau, J. J. ....	104	Pageau, Lucien, Sourirajan, S., and Thayer, W. L. — Improvement of Mass Transfer Coefficient in Reverse Osmosis by Oscillatory Flow .....	422
Lo, S. N. — See Garceau, J. J. ....	582	Papadatos, K. — See Bergougrou, M. A. ....	686
Lozada, A. — See Anvari, M. ....	340	Parimi, K. — See Harris, T. R. ....	175
Lozar, J. — See Couderc, J. P. ....	200	Pasternak, I. S. — See Cohen, A. D. ....	74
Lu, B. C.-Y. — See Elshayal, I. M. ....	83	Pasternak, I. S. — See Cohen, A. D. ....	79
Laus, R. — Optimization of Multistage Recycle Systems By Direct Search .....	217	Peck, Ralph E. — See Cakaloz, Temel .....	53
MacGregor, John F. — See Hong, Huynh, Man .....	211	Pei, David C. T. — See Balakrishnan, Arcot R. ....	231
Mackay, D., and Medir, M. — Extraction of Phenol from Water with Mixed Solvents .....	274	Philippe, Robert — See Clechet, Paul .....	88
Mackay, D., and Mohtadi, M. — The Area Affected by Oil Spills on Land .....	140	Pitayagulsarn, Punya, and Sylvestre, Nicholas D. — Radial Liquid Distribution in Cocurrent Two-Phase Downflow in Packed Beds .....	599
Mackay, Donald, and Shiu, Wan Ying — The Determination of the Solubility of Hydrocarbons in Aqueous Sodium Chloride Solutions .....	239	Postlethwaite, John — See Holdner, D. N. ....	31
Mah, C. C. — See Golding, J. A. ....	414	Ponter, A. B., and Simons, J. — Semi-Empirical Formulae for the Prediction of Diffusion in Liquid Systems .....	541
Mahalingam, R. — See Coulson, J. M. ....	589	Quon, D. — See Cresswell, D. L. ....	334
Mann, R. F., Stanislaus, A., and Tycholiz, D. — The Kinetics and Mechanism of the Oxidation of Carbon Monoxide Over an Industrial Vanadium Oxide Catalyst .....	438	Ramachandran, P. A. — See Hughes, R. ....	184
Mann, R. F., and Walker, W. W. — The Vaporization of Small Binary Drops on a Flat Plate at Maximum Heat Flux .....	487	Rao, P. S. V. K., and Sarma, P. K. — Effect of Interfacial Shear on Evaporation Rates of Liquid Patches .....	456
Mann, Uzi — See Crosby, E. J. ....	579	Ratcliff, G. A., and Reay, David — Experimental Testing of the Hydrodynamic Collision Model of Fine Particle Flotation .....	481
Marmur, Abraham, and Rubin, Eliezer — The Validity of the Analytical Approximations to the Equation of Bubble Oscillations .....	560	Ratcliff, G. A., and Ronce, M. — An Improved Group Solution for the Prediction of Excess Free Energies of Liquid Mixtures .....	329
Marshall, R. J., and Rice, R. G. — Short Penetration Models for Direct and Indirect Contact, Co-Current Heat Transfer .....	453	Rawat, B. S. — See Ghosh, S. K. ....	48
Marsters, G. F. — Natural Convective Heat Transfer from a Horizontal Cylinder in the Presence of Nearby Walls .....	144	Reay, David — See Ratcliff, G. A. ....	481
Masliyah, Jacob H. — Aerosol Removal by Diffusion and Interception in Mats of Elliptic Fibres .....	568	Resnick, W., Shiloh, K., and Sideman, S. — Crystallization in a Dispersed Phase .....	157
Masliyah, J. H., and Shook, C. A. — Laminar Transient Flow in Pipes .....	469	Rhodes, E. — See Kulic, E. ....	252
Mason, S. G. — See Huh, C. ....	367	Rice, Philip A. — See Fox, George E. ....	431
Mason, S. G., and Mikami, T. — The Capillary Break-up of a Binary Liquid Column Inside a Tube .....	372	Rice, R. G. — See Marshall, R. J. ....	453
Matras, D. — See David, R. ....	297	Roehl, A. A. — See Ellis, H. S. ....	119
McLeod, D. J., and Shook, C. A. — The Effect of Line Length for Inclined Slurry Pipelines at Shutdown .....	594	Ronce, M. — See Ratcliff, G. A. ....	329
Medir, M. — See Mackay, D. ....	274	Rubin, Eliezer. — See Marmur, Abraham .....	560
Meubus, Paul — High Temperature Propane Cracking in an Argon Plasma with the Presence of Aluminum Vapor and Tungsten Particles .....	653	Sada, Eizo — See Morisue, Tetsuo .....	350
Mikami, T. — See Mason, S. G. ....	372	Sampath, B. S. — See Hughes, R. ....	184
Mizrahi, J. See Barnea, E. ....	461	Sandall, Orville C. — Heat Effects in Gas Absorption Accompanied by a Rapid First-Order Reaction in Turbulent Liquid Films .....	702
Mohtadi, M. — See Mackay, D. ....	140	Saraf, D. N. — See Khullar, S. D. ....	449
Moo Young, Murray — Microbial Reactor Design for Synthetic Protein Production .....	113	Sarma, P. K. — See Rao, P. S. V. ....	456
Morisue, Tetsuo, and Sada, Eizo, and Yamaji, Hiroshi — Salt Effects on Isobaric Vapour-Liquid Equilibrium of Isopropanol-Water System .....	350	Savage, Richard W., and Torrest, Robert S. — Particle Collection from Vertical Suspension Flows Through Small Side Ports — A Correlation .....	699
Nadebaum, P. R. — See Fahidy, T. Z. ....	259	Schultz, R. R. — See Cole, R. ....	408
Narain, Prakash Jai — Three Dimensional Turbulent Wall Jets .....	245	Serth, R. W. — Solution of Non-Newtonian Boundary Layer Equations by Orthogonal Collocation .....	96
Neale, G. — See Anaka, Harvey .....	691	Seyer, F. A. — See Hlavacek, B. ....	99
Nguyen, X. T. — See Bergougrou, M. A. ....	102	Shah, A. K., and Sharma, M. M. — Mass Transfer in Gas-Liquid (Horizontal) Pipeline Contactors .....	572
Novak, Lawrence T. — See Coulman, George A. ....	60	Sharma, M. M. — See Shah, A. K. ....	572
Oliver, Barry G. — See Carey, John H. ....	711	Sharma, M. M., and Virkar, P. D. — Mass Transfer in Venturi Scrubbers .....	512
Oliver, Barry G. — See Cosgrove, Ernest G. ....	170	Shemilt, L. W. — See Dim, A. ....	9

Singhal, A. K. — See Dranchuk, P. M. ....	3	Tollefson, E. L. — See Lamb, A. ....	66
Smith, Gordon Thomas — See Carberry, James J. ....	347	Torrest, Robert S. — See Savage, Richard W. ....	699
Smith, I. K. — See Garmendia, L. A. ....	606	Trass, Olev — See Giralt, Francesc ....	505
Smith, J. W. — See Hummel, R. L. ....	221	Turian, Raffi M. — See Fox, George E. ....	431
Smith, J. W. — See King, D. H. ....	41	Tycholiz, D. — See Mann, R. F. ....	438
Snyder, William T. — See Kruyer, Jan ....	378	Uchida, S. — See Osuda, S. ....	666
Soliman, M. A. — See Carty, R. H. ....	164	Vadekar, M. — See Cohen, A. D. ....	74
Son, P. N. — See Chornet, E. ....	286	Vadekar, M. — See Cohen, A. D. ....	79
Sourirajan, S. — See Pageau, Lucien ....	422	Van Bang, Vo — See Chiang, David ....	521
Spink, D. R. — See Kim, J. D. ....	109	Van Cleave, A. B., and Wells, P. F. — The Mechan-	
Stanislaus, A. — See Mann, R. F. ....	438	ism of the Adsorption of Ethyl Xanthate Ion on	
Stepanek, J. B. — See Achwal, S. K. ....	517	Galena (II) ....	641
Stephanopoulos, G. — See Anvari, M. ....	340	Vera, J. H. — See Correa, H. A. ....	204
Stephanopoulos, George and Westerberg, Arthur W.		Virkar, P. D. — See Sharma, M. M. ....	512
— Synthesis of Optimal Process Flowsheets by an		Walker, W. W. — See Mann, R. F. ....	487
Infeasible Decomposition Technique in the Pre-		Wanke, Sieghard E. — See Aruanno, Jorge ....	301
sence of Functional Non-Convexities ....	551	Wanke, Sieghard E. — See Flynn, Peter C. ....	636
Strand, Michael J. — See Garlid, Kermit L. ....	677	Watkinson, A. Paul — See Oloman, Colin ....	268
Stradal, M. — See Goring, D. A. I. ....	427	Wellek, R. M. — See Brunson, R. J. ....	150
Subramanian, Gopal, and Tien, Chi — Induced Liquid		Wells, P. F. — See Van Cleave, A. B. ....	641
Phase Mixing Due to Bubble Motion at Low Gas		Weng, P. — See Anvari, M. ....	340
Velocity ....	611	Westerberg, Arthur W. — See Stephanopoulos,	
Sullivan, G. — See Kulic, E. ....	252	George ....	551
Svrcek, W. Y. — See Bergougnou, M. A. ....	686	Williams, P. E. L. — See Hudgins, R. R. ....	354
Svrcek, W. Y., and Xuyen, V. T. — Elimination of		Willins, Richard E. — See Griskey, Richard G. ....	500
Initial Conditions in Linear Dynamic Batch Process		Wojciechowski, Bohdan W. — See Pachovsky, Roman	
Identification by Least Squares ....	443	A. ....	308
Sylvester, N. D. — See Carberry, J. J. ....	313	Wojciechowski, Bohdan W. — See Pachovsky,	
Sylvester, Nicholas D. — See Pitayagulsarn, Punya		Roman A. ....	659
Talbot, Frank D. — See Chan, Alan L. ....	91	Woods, Donald R. — See Anderson, Susan J. ....	357
Teng, Tjoon-Tow — See Lenzi, Fabio ....	673	Xuyen, V. T. — See Svrcek, W. Y. ....	443
Thayer, W. L. — See Pageau, Lucien ....	422	Yamaguchi, Kazuo — See Akiyama, Tetsuo ....	695
Thodos, George — See Dingrani, J. G. ....	317	Yamaji, Hiroshi — See Morisue, Tetsuo ....	350
Thodos, George — See Hsiung, Thomas H. ....	321	Yamanis, John — See Adelman, Maurice ....	536
Tien, Chi — See Subramanian, Gopal ....	611		

# INDEX OF PAPERS

Absorption with First Order Chemical Reaction into Turbulently Flowing Liquids — J. B. Stepanek and S. K. Achwal .....	517	Effect of Interfacial Shear on Evaporation Rates of Liquid Patches — P. S. V. K. Rao and P. K. Sarma .....	456
Activation de la tourbe de sphaigne par le dioxyde de carbone et agglomération du charbon actif produit — P. N. Son, P. V. Khanh et E. Chornet ....	286	Effect of Line Length for Inclined Slurry Pipelines at Shutdown, The — C. A. Shook and D. J. McLeod .....	594
Aerosol Removal by Diffusion and Interception in Mats of Elliptic Fibres — Jacob H. Masliyah .....	568	Effect of Pretreatment and Adsorption Conditions on Gas Adsorption by Supported Metal Catalysts — Peter C. Flynn and Sieghard E. Wanke .....	636
Analytical Examination of the Ignition of a Homogeneous Mixture of Fuel and Air Undergoing Periodic Changes in Density, An — G. A. Karim and M. V. D'Souza .....	106	Effects of an Electrostatic Field and Air Stream on Water Jet Break-Up Length, The — L. A. Garmendia and I. K. Smith .....	606
Application of Spectral Analysis in Monitoring Extraction Column Behavior, The — Michael J. Strand and Kermit L. Garlid .....	677	Effects of Charge Stock Composition on the Kinetic Parameters in Catalytic Cracking — Roman A. Pachovsky and Bohdan W. Wojciechowski .....	308
Approximate Correlation for Fluidized Bed Density Within the Slug Flow Regime — X. T. Nguyen and M. A. Bergougnou .....	102	Effects of Charge Stock Composition on Selectivity in the Cracking of Neutral Distillates — Roman A. Pachovsky and Bohdan W. Wojciechowski .....	659
Area Affected by Oil Spills on Land, The — D. Mackay and M. Mohtadi .....	140	Electrochemical Wall Mass Transfer in Liquid Particulate Systems — J. W. Smith and D. H. King ....	41
Behavior of Macromolecules in Dilute Solutions: I — Longitudinal Dispersion — H. R. Chen and L. P. Blanchard .....	228	Electroreduction of Oxygen to Hydrogen Peroxide on Fluidized Cathodes, The — Colin Oloman and A. Paul Watkinson .....	268
Behavior of Macromolecules in Dilute Solutions: II — On the Axial Dispersion Coefficient — H. R. Chen and L. P. Blanchard .....	476	Elimination of Initial Conditions in Linear Dynamic Batch Process Identification by Least Squares — V. T. Xugen and W. Y. Svrcek .....	443
Behaviour of a Spray in the Near Vicinity of a Pneumatic Atomizer — S. Katta and W. H. Gauvin .....	556	Energy Effect in Elongational Flow of Dilute Polymer Solution — B. Hlavacek and F. A. Seyer .....	99
Behaviour of the Dispersed Phase in Liquid-Liquid Cocurrent Flow Through a Packed Bed, The — John P. Duffy and Robert H. Kadlec .....	621	Equation for Salt Effect in Liquid-Vapor Equilibrium at Constant Liquid Composition, An — Derek Jaques .....	713
Capillary Break-up of a Binary Liquid Column Inside a Tube, The — T. Mikami and S. G. Mason ....	372	Evaluation of Capital Cost Data: Drives — Donald R. Woods and Susan J. Anderson .....	357
Catalytic Reduction of Nitric Oxide in the Presence of Oxygen in Low Concentration High Velocity Gas Streams — A. Lamb and E. L. Tollefson ....	68	Experimental Studies of Incipient Vapor Nucleation — R. R. Schultz, S. Kasturirangan and R. Cole ....	408
Comparison of Transient Reactor Models for Non-Catalytic Gas-Solid Processing, A — B. S. Sampath, P. A. Ramachandran and R. Hughes .....	184	Experimental Studies of Single Droplet Liquid Extraction with Chemical Reaction — R. M. Wellek and R. J. Brunson .....	150
Comparison of Methods for the Prediction of Liquid Holdup for Upward Gas-Liquid Flow in Inclined Pipes — G. A. Gregory .....	384	Experimental Testing of the Hydrodynamic Collision Model of Fine Particle Flotation — David Reay and G. A. Rateliff .....	481
Concentrated Suspension Model for the Couette Rheology of Blood, A — Christopher Brennen .....	126	Extraction of Phenol from Water with Mixed Solvents — M. Medir and D. Mackay .....	274
Corona-Induced Autohesion of Polyethylene: Dependence of Bonding on Frequency and Power Consumption in Various Gases — M. Stradal and D. A. I. Goring .....	427	Filtration Method for Measuring Particle Interactions in Latexes, A — A. M. Homola and A. A. Robertson .....	389
Crystallization in a Dispersed Phase — K. Shiloh, S. Sideman and W. Resnick .....	157	Flame Oscillations in the Wake of a Burning Liquid Sphere — Subramanyam R. Gollahalli .....	459
Cycle Time Distribution Measurements in Spouted Beds — Uzi Mann and E. J. Crosby .....	579	Flow Past a Spherical Drop or Bubble at Low Reynolds Number, On the — Tetsuo Akiyama and Kazuo Yamaguchi .....	695
Dehydrogenation Reaction of n-Butane with the Deactivation of Aluminachromia Catalyst, On the — S. Uchida, S. Osuda and M. Shindo .....	666	Fluid-Particle Heat Transfer in Gas Fluidized Beds — Arcot R. Balakrishnan and David C. T. Pei ....	231
Density Prediction of Multicomponent Aqueous Solutions from Binary Data — Tjoon-Tow Teng and Fabio Lenzi .....	673	Fundamental Aspects of the Behavior of Ion Exchange Equipment, Some — Edward J. Farkas and Alexander Himsley .....	575
Determination of the Solubility of Hydrocarbons in Aqueous Sodium Chloride Solutions, The — Donald Mackay and Wan Ying Shiu .....	239	Gas Absorption in Vertical Slug Flow — J. A. Golding and C. C. Mah .....	414
Diffusivité de l'acide benzoïque dans l'eau: Influence de la température — J. Lozar, C. Laguerite et J. P. Couderc .....	200	Gas Holdup and Liquid Flow Velocity in a Bubble Column Containing Screen Cylinders — B. H. Chen .....	225
Disinfection of Sewage Treatment Plant Effluents Using Ultraviolet Light, The — Barry G. Oliver and Ernest G. Cosgrove .....	170	Generalised Approach to the Fluid Dynamics of Particulate Systems, A. Part 2: Sedimentation and Fluidisation of Clouds of Spherical Liquid Drops — E. Barnea and J. Mizrahi .....	461
Dispersed Flow Model for a Biological Reactor as Applied to the Activated Sludge Process, The — Raffi M. Turian, George E. Fox and Philip A. Rice .....	431	Generalized Drying Curves for Porous Solids — Bilgin Kisakurek, Ralph E. Peck, and Temel Cakaloz .....	53
Dynamic Behavior of Reciprocating Plate Columns — J. Landau, A. Dim and L. W. Shemilt .....	9	Heat Effects in Gas Absorption Accompanied by a Rapid First-Order Reaction in Turbulent Liquid Films — Orville C. Sandall .....	702
Effect of High Temperature Treatment on the Properties of Fe-Mo Oxide Catalysts — Jorge Aruanno and Sieghard Wanke .....	301	Heat Transfer from a Grid Jet in a Large Fluidized Bed — L. A. Behie, M. A. Bergougnou, C. G. J. Baker .....	25
		Heat Transfer Rate Predictions in Condensation on Droplets From Air-Steam Mixtures — E. Kulic, E. Rhodes and G. Sullivan .....	252



High Temperature Pressure Cracking in an Argon Plasma with the Presence of Aluminum Vapor and Tungsten Particles — Paul Meubus	653	Non-Isothermal Pressure-Drop in Non-Newtonian Laminar Flow — R. Mahalingam and J. M. Coulson	589
Holdup Dynamics of a Single Stage Gas-Solid Fluidized Bed Adsorber — K. Papadatos, W. Y. Srvecek, and M. A. Bergougnou	686	Non-Newtonian Nonsimilar Boundary Layers — Rama Subra Reddy Gorla	563
Hydrocarbon-propionitrile Systems — I. Kikic and P. Alessi	192	Optimal Two Point Control of a Binary Distillation Column — Alan L. Chan and Frank D. Talbot	91
Hydrodynamic Studies in Natural and Forced Convection Electrowinning Cells — A. S. Gendron and V. A. Ettel	36	Optimization of Multistage Recycle Systems by Direct Search — R. Luus	217
Hydrodynamics of Spherical Capsules, The — H. S. Ellis, Jan Kruyer and A. A. Roehl	119	Optimum Attenuation of Inlet Fluctuations in a Flow System for Imperfectly Mixed Tanks in Series — Vo Van Bang, David Chiang and A. Cholette	521
Identification and Direct Digital Stochastic Control of a Continuous Stirred Tank Process — Huynh Man Hong and John F. MacGregor	211	Oxidation of Butyric Acid Solutions — P.E.L. Williams, P. L. Silveston, and R. R. Hudgins	35
Identification of Residence Time Models by Reacting Tracer Experiments, The — K. Parimi and T. R. Harris	175	Particle Collection from Vertical Suspension Flows Through Small Side Ports — A Correlation. — Robert S. Torrest and Richard W. Savage	699
Improved Group Solution Model for the Prediction of Excess Free Energies of Liquid Mixtures, An — M. Ronc and G. A. Ratcliff	329	Particle Segregation in a Fluidized Bed — J. L.-P. Chen and D. L. Keairns	395
Improvement of Mass Transfer Coefficient in Reverse Osmosis by Oscillatory Flow — W. L. Thayer, Lucien Pageau and S. Sourirajan	422	Phase Holdup Characteristics of Three Phase Fluidized Beds — S. D. Kim, C. G. J. Baker and M. A. Bergougnou	134
Induced Liquid Phase Mixing Due to Bubble Motion at Low Gas Velocity — Gopal Subramanian and Chi Tien	611	Possibility of Omitting the Cooling Step in Thermal Gas Adsorption Cycles, On the — D. Basmadjian	234
Influence of Fluid Rheology on Circulation, Mixing and Blending — V. V. Chavan, D. E. Ford and M. Arumugan	628	Propriétés physico-chimiques et thermodynamiques du système binaire hexaméthylphosphotriamide + eau — Jacques Jose, Robert Philippe et Paul Clechet	88
Kinetics and Mechanism of the Oxidation of Carbon Monoxide over an Industrial Vanadium Oxide Catalyst, The — R. F. Mann, D. Tycholiz and A. Stanislaus	438	Radial Liquid Distribution in Cocurrent Two-Phase Downflow in Packed Beds — Nicholas D. Sylvester and Punya Pitayagulusarn	599
Laminar Flow in the Central Plane of a Curved Circular Pipe — Johannes Kaczinsky, J. W. Smith and R. L. Hummel	221	Rapid Estimation of Percent Solids in Spent Liquors by Refractometry — S. N. Lo and J. J. Garceau	104
Laminar Natural Heat Transfer from an Isothermal Sphere to Non-Newtonian Fluids — K. S. Liew and M. Adelman	494	Rate of Mass Transfer at a Rotating Cylindrical Electrode with Wiper Blades, The — P. R. Nadebaum and T. Z. Fahidy	259
Laminar Transient Flow in Pipes — J. H. Masliyah and C. A. Shook	469	Règles de construction et d'extrapolation des réacteurs auto-agites par jets gazeux — R. David et D. Matras	279
Mass Transfer in Gas-Liquid (Horizontal) Pipeline Contactors — A. K. Shah and M. M. Sharma	572	Relationship Between Capsule Pulling Force and Pressure Gradient in a Pipe — Jan Kruyer and William T. Snyder	378
Mass Transfer in Venturi Scrubbers — P. D. Virkar and M. M. Sharma	512	Removal of Micron-Size Particles from Gases by Turbulent Deposition and Diffusiophoresis — M. K. Azarniouch, E. J. Farkas, N. E. Cooke and A. J. Bobkiewicz	278
Mass Transfer from Crystalline Surfaces in a Turbulent Impinging Jet. Part 1. Transfer by Erosion — Francisc Giralte and Olev Trass	505	Salt Effects on Isobaric Vapour-Liquid Equilibrium of Isopropanol-Water System — Eizo Sada, Tetsuo Morisue and Hiroshi Yamaji	350
Mass Transfer from Cylinders at Various Orientations to Flowing Gas Streams — Richard E. Willins and Richard G. Griskey	500	Scale-Up Investigation of Ultraviolet Disinfection as an Alternative to Chlorination for Sewage Effluents, A — Barry G. Oliver and John H. Carey	711
Mathematical Models for the Drying of Rigid Porous Materials — Lawrence T. Novak and George A. Coulman	60	Semi-Empirical Formulae for the Prediction of Diffusion in Liquid Systems — J. Simons and A. B. Ponter	541
Measurement of Total Pressures for Ethylene — Propane Mixture — I. M. Elshayal and B.C.-Y. Lu	83	Short Penetration Models for Direct and Indirect Contact, Co-Current Heat Transfer — R. G. Rice and R. J. Marshall	453
Mechanism of the Adsorption of Ethyl Xanthate Ion on Galena (II), The — P. F. Wells and A. B. Van Cleave	641	Simultaneous Heat and Mass Transfer in Spouted Beds — Andrzej Kmiec	18
Microbial Reactor Design for Synthetic Protein Production — Murray Moo Young	113	Slurry and Trickle-Bed Reactor Effectiveness — N. D. Sylvester, A. A. Kulkarni and J. J. Carberry	313
Model for the Formation of Calcium Carbide in Solid Pellets, A — C. Brookes, C. E. Gall and R. R. Hudgins	527	SO <sub>2</sub> Promoted Oxidative Dehydrogenation of Ethylbenzene — N. J. Gaspar, M. Vadekar, I. S. Pasternak and A. D. Cohen	74
Modified van der Waals Equation for the Dense Gaseous and Liquid Regions from PVT Data for Methane — J. G. Dingrani and George Thodos	317	SO <sub>2</sub> /O <sub>2</sub> Dehydrogenation of Ethylbenzene — N. J. Gaspar, A. D. Cohen, M. Vadekar and I. S. Pasternak	79
Natural Convective Heat Transfer From a Horizontal Cylinder in the Pressure of Nearby Walls — G. F. Marsters	144	Solubility of Propane in Isomers of Hexane and Other Non-Polar Solvents — D. Fleury and W. Hayduk	195
New Thermochemical Cycles for Hydrogen Production — M. A. Soliman, R. H. Carty, W. L. Conger and J. E. Funk	164	Solution of Non-Newtonian Boundary Layer Equations by Orthogonal Collocation — R. W. Serth	96
Non-Foaming Adhesive Bubble Separation of DBSNa and Foam Separation of Cadmium — Katsuyuki Kubota	706	Sorption Characteristics of Binary Hydrocarbon Mixtures in Low Density Polyethylene — S. K. Ghosh, B. S. Rawat and M. G. Krishna	48
		Spectrophotometric Method for Quantitative Analysis of Sugar Mixtures Containing Known Sugars, A — S. N. Lo and J. J. Garceau	582

Steady State and Dynamic Studies of a Multi Product Chemical Plant — A. I. Johnson, A. Lozada, M. Anvari, G. Stephanopoulos and P. Weng .....	340	Use of Partially Impregnated Catalysts for Yield Enhancement in Non-Isothermal Non-Adiabatic Fixed Bed Reactors, On the — Thomas Gordon Smith and James J. Carberry .....	347
Studies on the Viscosity of Settling Suspensions, Some — D. N. Saraf and S. D. Khullar .....	449	Uni-Directional Spreading of One Liquid on the Surface of Another — C. Huh, M. Inoue and S. G. Mason .....	367
Study of the Combined Effects of Kinetic Parameters and Flow Models on Conversions for Second Order Reactions, A — Lars-Eric Lindfors .....	647	Validity of the Analytical Approximations to the Equation of Bubble Oscillations, The — Abraham Marmur and Eliezer Rubin .....	560
Synthesis of Optimal Process Flowsheets by an Infeasible Decomposition Technique in the Presence of Functional Non-Convexities — George Stephanopoulos and Arthur W. Westerberg .....	551	Vaporization of Small Binary Drops on a Flat Plate at Maximum Heat Flux, The — R. F. Mann and W. W. Walker .....	487
Technique for Analysing Integral Rate Data in Non-Ideal Flow Reactors to Estimate Unknown Parameters, A — D. L. Cresswell and D. Quon ....	334	Vapor Liquid Equilibrium Constants Through a Non-Equation of State Approach: Methane-Free Aliphatic Binary Systems — Thomas H. Hsiung and George Thodos .....	321
Thermodynamics of Concentrated Strong Electrolytes Aqueous Solutions, On the. The System $\text{NaNO}_3\text{-NaCl-H}_2\text{O}$ — H. A. Correa and J. H. Vera .....	204	Vapor Pressure of Hafnium Tetrachloride — J. D. Kim and D. R. Spink .....	109
Thorium as a Nuclear Fuel for CANDU Reactors — S. Banerjee, E. Critoph and R. G. Hart .....	291	Viscous Dissipation Effects on Turbulent Heat Transfer in Pipes with Uniform Wall Heat Flux — Jenn-Wuu Ou and K. C. Cheng .....	403
Three Dimensional Turbulent Wall Jets — Jai Prakash Narain .....	245	Wall Mass Transfer in Horizontal Slurry Pipelines — John Postlethwaite and D. N. Holdner .....	31
Transesterification of DMT with Ethylene Glycol Catalyzed by Amerlyst 15 — John Yamanis and Maurice Adelman .....	536	Wettability Control of Glass Beads — A. K. Singhal and P. M. Dranchuk .....	3
Transport Phenomena in Non-Homogeneous Porous Media: Fluid Flow — G. Neale, Harvey Anaka and David Hampel .....	691		



l  
c  
n  
347  
e  
l  
367  
e  
n  
560  
e  
l  
487  
a  
e  
k  
321  
109  
t  
k  
403  
s  
31  
l  
3